

**REMARKS**

Claims 1-43 remain pending in the application.

**Claims 1-43 over Gouda and Milliken**

In the Office Action, claims 1-43 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Microsoft article Anti-Replay Window Protocols for Secure IP to Mohamed G. Gouda et al. ("Gouda") in view of U.S. Patent No. 6,978,384 to Milliken ("Milliken"). The Applicants respectfully traverse the rejection.

Claims 1-43 recite **adjusting a size of a range** of acceptable nonce values within a **single** acceptance window or a **single** replay mask, where the **size of the range is based on a largest nonce value yet seen**.

Gouda appears to disclose an anti-replay window protocol that is used to secure IP against an adversary that can insert (possible replay) messages in a message stream between two computers (see Abstract). According to Gouda, a window  $w$  of sequence numbers (disclosed in section II) is partitioned into two smaller sub-windows of equal size (see page 313, right col., last paragraph). Each smaller sub-window (the window having the higher sequence number being called the head window, and the other being called the tail window) having  $u$  successive sequence numbers, and the larger window having a sequence number range of  $w=2*u$ , where  $u$  is a number of sequence numbers (see Gouda, page 313, right col., last paragraph).

Gouda discloses the use of **three** windows, window  $w$  and its sub-windows whose **range remains constant**. Gouda fails to disclose adjusting a **single** acceptance window or a **single** replay mask, and neither of Gouda's **three** windows have a **range** that is **adjusted in size** based on a **changing value**. Gouda fails to disclose **adjusting a size of a range** of acceptable nonce values within a **single** acceptance window or a **single** replay mask, where the **size of the range is based on a largest nonce value yet seen**, as recited by claims 1-43.

The Examiner alleged that Gouda discloses "adjusting a range of acceptable nonce values within the acceptable window, where the size of said

range is based on said largest nonce value yet seen (see pages 313 and 314 section V)". The Applicants respectfully disagree.

Gouda at pages 313 and 314 section V describes the **three** windows discussed above. Moreover, section V of Gouda describes windows **sliding**. However, a sliding window simply changes the values that are acceptable within a particular window. Even after sliding, Gouda's **range** within any particular window **remains constant**. Gouda's **sliding** window that has a **constant range** fails to disclose **adjusting a size of a range** of acceptable nonce values within a **single** acceptance window or a **single** replay mask, where the **size of the range is based on a largest nonce value yet seen**, as recited by claims 1-43.

The Examiner relied on Milliken to allegedly disclose a sliding window with a varying size at col. 3, lines 56-61. (see Office Action, page 4) However, Applicants' claims **fail** to recite a sliding window with a varying size. Although Applicants' invention could be used with a sliding window with a varying size.

Milliken at col. 3, lines 56-61 discloses:

The size of the sliding window may be a particular value or varied for a particular security association based upon a variety of factors, such as, the expected data rate (or packet rate) or the expected maximum delay change associated with a packet reordering event in a network.

Milliken discloses a size of a window may be varied. However, Milliken's basis for the varying the size of the window is based on the "expected data rate (or packet rate) or the expected maximum delay change associated with a packet reordering event in a network". Milliken, nor Gouda's disclosure of a **constant** sized window, disclose, teach or suggest use of a **largest nonce value yet seen** as a basis for **adjusting a range** of acceptable nonce values within a **single** acceptance window or a **single** replay mask, as recited by claims 1-43.

Gouda and Milliken, either alone or in combination, fail to disclose, teach or suggest **adjusting a size of a range** of acceptable nonce values within

a **single** acceptance window or a **single** replay mask, where the **size of the range is based on a largest nonce value yet seen**, as recited by claims 1-43.

A benefit of adjusting a **size of range** of acceptable nonce values within a **single** acceptance window or a **single** replay mask **based on a largest nonce value yet seen** is, e.g., to reduce confusion between sessions. Adjusting the **size of a range** of a **single** acceptance window or a **single** replay mask, such as when starting a new session or when resetting a nonce value, permits new advantages. For instance, a previous session's large nonce value may play havoc on a new session starting with small nonce values. When switching sessions to restrict acceptance of a previous session's large nonce values the inventors have discovered that there are advantages to narrow an acceptance window or replay mask. Then once a session is underway, it is found that a single acceptance window or a single replay mask should be increased to prevent unnecessary rejection of data associated with nonce values. The cited prior art fails to disclose or suggest the claimed features.

Accordingly, for at least all the above reasons, claims 1-43 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

**Conclusion**

All objections and rejections having been addressed, it is respectfully submitted that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,



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